What is claimed is:

1. A method of searching for an optimal resource allocation configuration comprising:

generating a first configuration for allocating resources having a first degree of optimization;

generating a second configuration for allocating resources based on a variation of the first configuration, the second resource allocation configuration having a second degree of optimization;

rejecting the second configuration if the first degree of optimization represents a more optimal configuration than the second degree of optimization based on a first probability that the first configuration comprises a global optimum configuration for allocating resources; and

accepting the second configuration if the first degree of optimization represents a more optimal configuration than the second degree of optimization based on a second probability that the first configuration does not comprise the global optimum configuration for allocating resources.

2. The method of claim 1 further comprising accepting the second configuration if the second degree of optimization represents a more optimal configuration than the first degree of optimization.

3. The method of claim 1 further comprising:

comparing the second degree of optimization to a degree of optimization according to the most optimal configuration among previously generated configurations;

rejecting the second degree of optimization if the degree of optimization according to the most optimal configuration represents a more optimal configuration than the second degree of optimization; and

accepting the second degree of optimization if the second degree of optimization represents a more optimal configuration than the degree of optimization according to the most optimal configuration.

4. The method of claim 1 further comprising:

generating a third configuration for allocating resources based on a variation of the first configuration if the second configuration does not comprise a minimum configuration threshold; and

generating a fourth configuration for allocating resources based on a variation of the first configuration if the second configuration does not comprise the minimum configuration threshold based on a third probability that a configuration other than the second configuration will comprise the minimum configuration threshold.

5. The method of claim 1 further comprising:

assigning an operation to a resource according to the first resource allocation configuration if the first degree of optimization represents a more optimal configuration than the second degree of optimization; and

assigning the operation to a resource according to the second resource allocation configuration if the second degree of optimization represents a more optimal configuration than the second degree of optimization.

6. The method of claim 5,

wherein the operation comprises an executable task; and

wherein the resource comprises a microengine.

7. The method of claim 5,

wherein the operation comprises a data structure; and

wherein the resource comprises a data store.

8. The method of claim 1, wherein generating a second configuration based on the first configuration comprises randomly modifying the first configuration.

9. The method of claim 1, wherein generating a second configuration comprises sampling one of a plurality of configurations for allocating resources, the plurality of configurations each comprising a variation of the first configuration.

10. The method of claim 1, wherein generating a second resource allocation configuration comprises modifying the first resource allocation configuration according to a genetic operator.

11. The method of claim 1 further comprising:

determining a value characterizing the utilization of resources according to a configuration for allocating resources, wherein a first value comprises the first degree of optimization, and a second value comprises the second degree of optimization.

12. The method of claim 11, wherein determining a value comprises:

determining a standard deviation of utilization for each resource in a configuration for allocating resources; and

determining the sum of the standard deviations of utilization for each resource in the configuration for allocating resources.

13. The method of claim 12, wherein determining the standard of deviations of utilization for each resource in the configuration comprises determining the standard deviations of percentage utilizations of bus bandwidth across a cluster of microengines.

14. The method of claim 12, wherein determining the standard of deviations of utilization for each resource in the configuration comprises:

determining the standard deviations of percentage capacity utilization across one or memory channels;

determining the standard deviations of percentage read bandwidth utilization across the one or memory channels; and

determining the standard deviations of percentage write bandwidth utilization across the one or memory channels.

15. The method of claim 11,

wherein rejecting the second configuration comprises rejecting the second configuration if the first value is lower than the second value based on a first probability that the first configuration comprises a global optimum configuration for allocating resources; and

wherein accepting the second configuration comprises accepting the second configuration if the first value is lower than the second value based on a second probability that the first configuration does not comprise the global optimum configuration for allocating resources

16. The method of claim 1, wherein the first and second probabilities comprise first and second variable probabilities, the method further comprising determining the first and second variable probabilities based on the number of remaining potential configurations.

17. The method of claim 1, wherein the first and second probabilities comprise first and second variable probabilities, the method further comprising determining the first and second variable probabilities based on the degree of optimization of a previously generated configuration.

18. A method of searching for an optimal configuration for allocating resources among a plurality of resource allocation configurations, the method comprising:

generating a first configuration for allocating resources based on a genetic variation of a second configuration for allocating resources;

comparing a utilization of resources according to the first configuration with a utilization of resources according to the second configuration;

generating a new configuration for allocating resources based on the first configuration if the first configuration more optimally allocates resources than the second configuration; and

generating a new configuration for allocating resources based on the second configuration if the second configuration more optimally allocates resources than the first configuration.

19. The method of claim 18, further comprising:

comparing a utilization of resources according to the first configuration to a utilization of resources according to the most optimal configuration among previously generated configurations;

generating a new configuration for allocating resources based on the first configuration if the first configuration more optimally allocates resources than the third configuration; and

generating a new configuration for allocating resources based on the second configuration if the third configuration more optimally allocates resources than the first configuration.

20. The method of claim 18, further comprising:

rejecting the first configuration if the second configuration more optimally allocates resources than the first configuration based on a first probability that the second configuration more optimally allocates resources than potentially searchable configurations; and

accepting the first configuration if the second configuration more optimally allocates resources than the first configuration based on a second probability that a potentially searchable configuration more optimally allocates resources than the first configuration.

21. The method of claim 20, wherein the first and second probabilities comprise first and second variable probabilities, the method further comprising determining the first and second variable probabilities based on the number of remaining potential configurations.

22. The method of claim 20, wherein the first and second probabilities comprise first and second variable probabilities, the method further comprising determining the first and second variable probabilities based on the degree of optimization of a previously generated configuration.

23. The method of claim 18, further comprising:

determining a first degree of optimization for the first configuration; and

determining a second degree of optimization for the second configuration;

wherein comparing a utilization of resources according to the first configuration with a utilization of resources according to the second configuration comprises comparing the first degree of optimization with the second degree of optimization.

24. The method of claim 23, wherein the first and second degrees of optimization each comprise a value, and wherein comparing the first degree of optimization with the second degree of optimization comprises determining which degree of optimization has a lower value.

25. The method of claim 18 further comprising:

determining a first standard deviation of utilization for each resource according to the first configuration;

determining a second standard deviation of utilization for each resource according to the second configuration;

determining the sum of the first standard deviations; and

determining the sum of the second standard deviations;

wherein comparing a utilization of resources according to the first configuration with a utilization of resources according to the second configuration comprises comparing the sum of the first standard deviations with the sum of the second standard deviations.

26. An article of manufacture comprising:

a computer readable memory;

a routine stored on the computer readable memory and adapted to be executed on a processor to generate a first configuration for allocating resources having a first degree of optimization;

a routine stored on the computer readable memory and adapted to be executed on a processor to generate a second configuration for allocating resources based on a variation of the first configuration, the second resource allocation configuration having a second degree of optimization;

a routine stored on the computer readable memory and adapted to be executed on a processor to reject the second configuration if the first degree of optimization represents a more optimal configuration than the second degree of optimization based on a first probability that the first configuration comprises a global optimum configuration for allocating resources; and

a routine stored on the computer readable memory and adapted to be executed on a processor to accept the second configuration if the first degree of optimization represents a more optimal configuration than the second degree of optimization based on a second probability that the first configuration does not comprise the global optimum configuration for allocating resources.

27. The article of manufacture of claim 26, further comprising:

a routine stored on the computer readable memory and adapted to be executed on a processor to accept the second configuration if the second degree of optimization represents a more optimal configuration than the first degree of optimization.

28. The article of manufacture of claim 26, further comprising:

a routine stored on the computer readable memory and adapted to be executed on a processor to generate a third configuration for allocating resources based on a variation of the first configuration if the second configuration does not comprise a minimum configuration threshold; and

a routine stored on the computer readable memory and adapted to be executed on a processor to generate a fourth configuration for allocating resources based on a variation of the first configuration if the second configuration does not comprise the minimum configuration threshold based on a third probability that a configuration other than the second configuration will comprise the minimum configuration threshold.

29. The article of manufacture of claim 26, further comprising:

a routine stored on the computer readable memory and adapted to be executed on a processor to compare the second degree of optimization to a degree of optimization according to the most optimal configuration among previously generated configurations;

a routine stored on the computer readable memory and adapted to be executed on a processor to reject the second degree of optimization if the degree of optimization according to the most optimal configuration represents a more optimal configuration than the second degree of optimization; and

a routine stored on the computer readable memory and adapted to be executed on a processor to accept the second degree of optimization if the second degree of optimization represents a more optimal configuration than the degree of optimization according to the most optimal configuration.

30. The article of manufacture of claim 26, wherein the routine to generate a second configuration for allocating resources based on a variation of the first configuration comprises a routine stored on the computer readable memory and adapted to be executed on a processor to generate the second configuration for allocating resources based on a genetic variation of the first configuration.